

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference dgt040702	FOR FURTHER ACTION	See item 4 below
International application No. PCT/KR2004/001641	International filing date (<i>day/month/year</i>) 02 July 2004 (02.07.2004)	Priority date (<i>day/month/year</i>) 02 July 2003 (02.07.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant GRUNENTHAL GMBH		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
 2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 03 January 2006 (03.01.2006)
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 01 NOV 2004

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To:

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Seoul 137-867 Republic of Korea

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 25 OCTOBER 2004 (25.10.2004)

Applicant's or agent's file reference
dgt040702

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/001641

International filing date (day/month/year)

02 JULY 2004 (02.07.2004)

Priority date(day/month/year)

02 JULY 2003 (02.07.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 C07C 311/08

Applicant

DIGITALBIOTECH CO., LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
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Authorized officer

LEE, Choong Jae

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001641

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001641

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1, 2, 4, 6, 8, 10-14	YES
	Claims	3, 5, 7, 9	NO
Inventive step (IS)	Claims	None	YES
	Claims	3, 5, 7, 9	NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations :

1. Reference is made to the following document:

D1: WO 02/16318 A1

2. Novelty

The subject matter of claims 1, 2, 4, 6, 8, 10-14 relates to 4-(methylsulfonylamino)phenyl analogues which are potent vanilloid receptor antagonists and the pharmaceutical composition comprising one of the compounds in the above claims.

D1, which is considered to be the closest prior art, also discloses thiourea derivatives and the pharmaceutical composition which can be used as a modulator for vanilloid receptor.

The compounds of the claims 1, 2, 4, 6, 8, 10, 11, which are represented by formula (I) ~ (V), include the compounds of the D1 when R2 in formula (I) of D1 is (methanesulfonylamino)phenyl)alkyl(see the example 198, compound 36-4).

Therefore, the subject matter of claims 1, 2, 4, 6, 8, 10-14 cannot be considered to be novel under the Article 33(2).

3. Inventive Step

Although the compound of the claims 3, 5, 7, 9 is not disclosed concretely in D1, the compounds of the claims and those of D1 have the same basic structure((methylsulfonylamino)phenyl) analgues) and there is no description showing that the compounds of the claims are more effective than those of D1 as a vanilloid receptor antagonist.

Therefore, the subject matter of the claims 3, 5, 7, 9 cannot be considered to involve an inventive step under the Article 33(3).

4. Industrial Applicability

The subject matter of claims 1-6 is considered to be industrially applicable under PCT Article 33(4).